HOW TO HARVEST DRINKABLE WATER FROM HUMID AIR

A Complete DIY Digital Guide

Featuring the Joseph's Well Air Fountain System

By JOHN GILMORE | Joseph's Well Series

Introduction	The Hidden Ocean in the Air	3
Chapter 1	Understanding Atmospheric Water Generation (AWG)	4
Chapter 2	How Much Water is in the Air Around You?	5
Chapter 3	DIY Method 1 – Basic Dehumidifier Collection	6
Chapter 4	DIY Method 2 – Passive Fog & Dew Collectors	7
Chapter 5	DIY Method 3 – Thermoelectric Cooling Harvester	8
Chapter 6	DIY Method 4 – Solar-Powered Air-to-Water Unit	9
Chapter 7	Filtration & Purification – Making It Safe to Drink	10
Chapter 8	Storage, Maintenance & Best Practices	11
Chapter 9	Sizing Your System for Daily Needs	12
Chapter 10	Advanced: Integrating with Rainwater & Well Systems	13
Chapter 11	Off-Grid & Emergency Water Independence	14
Chapter 12	Climate & Location Factors	15
Chapter 13	Cost Comparison – DIY vs. Commercial	16
Chapter 14	The Joseph's Well Air Fountain System – A Closer Look	17
Chapter 15	Real-World Results & Testimonials	18
Chapter 16	Quick-Start Checklist	19
Conclusion	Your First Step to Water Freedom	20

Introduction: The Hidden Ocean in the Air

Every breath you take carries invisible water. The Earth's atmosphere holds approximately 12.9 **trillion litres** of freshwater in vapour form at any given moment — more than all the rivers on the planet combined. Yet most people believe water must come from taps, wells, or bottles.

This guide teaches you to tap that invisible reservoir. Whether you are preparing for emergencies, living off-grid, or simply want to slash your reliance on municipal water, harvesting moisture from air is a proven, sustainable strategy that people from the Namib Desert to the tropical rainforests have practiced for centuries.

Inside these pages you will find step-by-step DIY methods, filtration techniques, sizing formulas, and an honest comparison between building your own unit and investing in a purpose-built commercial system — including the **Joseph's Well Air Fountain System**, one of the most efficient personal AWG solutions available today.

■ **PRO TIP**

Humidity above 40 % is all you need to start harvesting water from air — most homes and climates qualify.

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Chapter 1: Understanding Atmospheric Water Generation

Atmospheric Water Generation (AWG) is the process of extracting water vapour from ambient air and condensing it into liquid water fit for drinking. At its core, every AWG system replicates the same process that produces dew on a cold morning: cool a surface below the **dew point temperature** and water condenses out of the air.

How Condensation Works

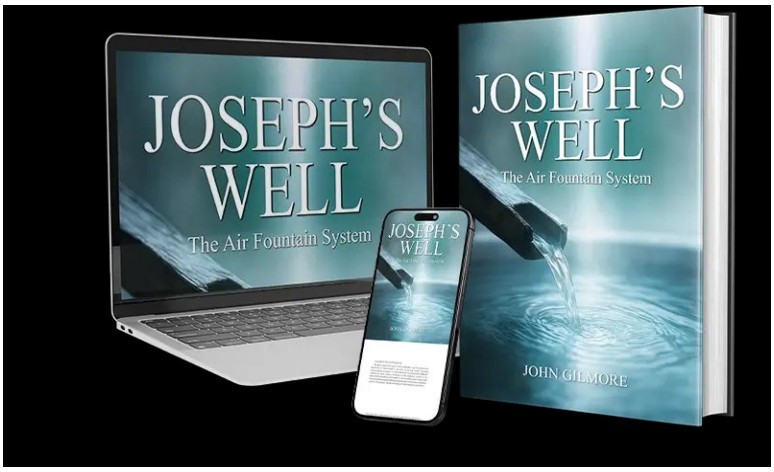
Warm air holds more moisture than cold air. When humid air contacts a surface cooler than its dew point, the vapour loses energy, transitions to liquid, and collects as droplets. In natural settings this creates dew, fog, and rain. In engineered systems, we exploit this physics with fans, cold coils, and filtration stages.

Key Variables

- Relative Humidity (RH) – percentage of water vapour in the air vs. the maximum it could hold at that temperature.
- Dew Point – the temperature at which air becomes saturated (100 % RH) and condensation begins.
- Air Volume – more air processed = more water produced.
- Energy Input – cooling air costs energy; efficiency varies dramatically by design.

■ **PRO TIP**

At 30 °C and 60 % RH, the dew point is around 21 °C — easily achievable with low-cost thermoelectric coolers.



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■ Skip the DIY? Joseph's Well Does All This For You.

[Discover How to Create Water From Air Today]

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Chapter 2: How Much Water is in the Air Around You?

Before investing time and materials, estimate the water potential of your environment using the simple formula below:

Daily Yield (litres) ≈ Air Volume (m³/hr) × AH (g/m³) × 24 × 0.001 × Efficiency

Where **AH (absolute humidity)** is the grams of water per cubic metre of air, and **Efficiency** is typically 0.3–0.7 for DIY systems and up to 0.85 for commercial units.

Humidity Reference Table

Location / Climate	Typical RH	AH (g/m³)	DIY Yield*
Tropical coast	70–90 %	18–25	4–9 L/day
Humid inland	55–70 %	12–18	2–5 L/day
Temperate city	40–60 %	8–14	1–3 L/day
Semi-arid	25–40 %	4–9	0.5–1 L/day
Arid desert	< 25 %	< 4	Not recommended

** Based on a modest 50 m³/hr DIY system at 40 % efficiency.*

■ **PRO TIP**
Install a $10 digital hygrometer outdoors for one week before building your system — real data beats estimates.

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Chapter 3: DIY Method 1 – Dehumidifier Collection

The simplest entry point: a standard household dehumidifier repurposed as a water source. Most 30-pint dehumidifiers already produce 10–14 litres per day — the challenge is making that output safe to drink.

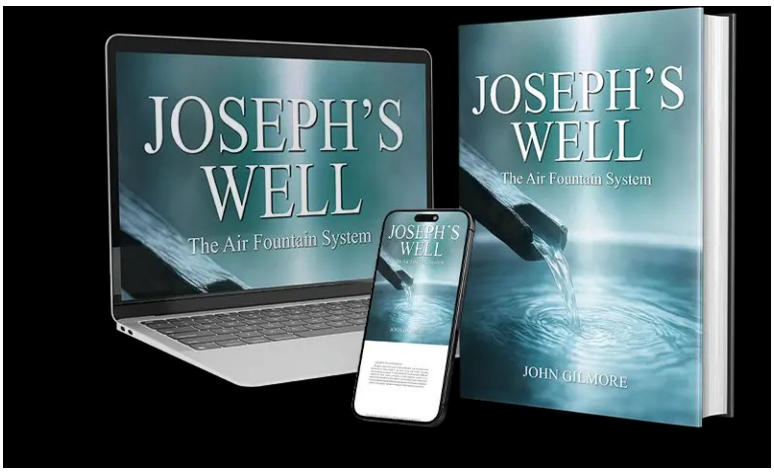
What You Need

- Portable dehumidifier (30–70 pint capacity)
- Food-grade collection container (10–20 L)
- Activated carbon block filter (10-inch, 0.5-micron)
- UV-C LED steriliser module (optional but recommended)
- Short section of food-grade silicone tubing

Step-by-Step

- **Step 1 —** Clean the dehumidifier reservoir thoroughly with white vinegar; rinse well.
- **Step 2 —** Route the drain hose into your food-grade container.
- **Step 3 —** Fit the carbon filter inline between container and tap/dispenser.
- **Step 4 —** If using UV-C, install it after the carbon filter.
- **Step 5 —** Test water with an inexpensive TDS meter — target below 50 ppm for drinking.

■ PRO TIP
Replace carbon filters every 3 months or 500 litres, whichever comes first.



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■ Want a Plug-and-Drink Solution? Check Joseph's Well

[See the Water Survival Method Everyone's Talking About]

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Chapter 4: DIY Method 2 – Passive Fog & Dew Collectors

In foggy or coastal areas, passive collectors can harvest water with **zero electricity**. The principle: a large mesh surface intercepts fog droplets which coalesce and drip into a trough.

Materials

- Polypropylene shade cloth (50–70 % shade rating), 2 m × 4 m
- Two wooden or metal posts, 2.5 m tall
- PVC collection gutter, 4 m
- 50-micron pre-filter sock
- Storage tank with lid

Construction

Stretch the shade cloth vertically between the two posts, perpendicular to the prevailing wind. Angle the bottom edge so droplets drain toward one side. Attach the gutter below the cloth to catch drips. Route into a covered storage tank fitted with a coarse pre-filter to exclude insects and debris.

A 2 m × 4 m collector in a coastal fog zone can yield **3–12 litres per foggy night**. In the Chilean Atacama desert, similar "fog fences" supply entire villages.

> ■ **PRO TIP**
> Orienting your fog collector 90° to the prevailing night breeze increases yield by up to 40 %.

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Chapter 5: DIY Method 3 – Thermoelectric Cooling Harvester

Peltier (thermoelectric) modules are solid-state heat pumps that create a cold side and a hot side when current is applied. Mounting a Peltier plate in a humid airstream produces condensation on the cold side.

Component List (~$60–90 in parts)

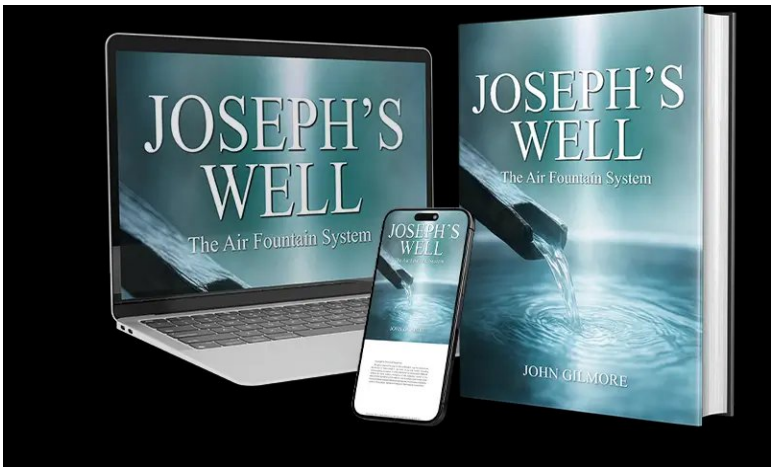
- 12 V TEC1-12706 Peltier module × 2
- 12 V PC CPU cooler with fan (hot-side heatsink)
- Aluminium cold plate (100 × 100 mm)
- 12 V / 10 A power supply or solar panel + battery
- Small food-grade drip tray and tubing
- 5 V computer fan (cool incoming air over cold plate)

Assembly Overview

Sandwich the Peltier module between the cold aluminium plate and the CPU cooler heatsink. Apply thermal paste on both sides. Direct a 5 V fan to blow ambient air across the cold plate. Collected condensate drips into the tray and routes through your filtration stage.

Expect **0.3–1.5 litres per day** depending on humidity and air-flow. This method excels as a proof-of-concept and backup source.

> ■ **PRO TIP**
> Running two Peltier modules in parallel (not series) doubles output without exceeding thermal limits.



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■ Joseph's Well Uses Advanced AWG — No Tinkering Required

[Click Here To Learn the Secret to Finding Water Anywhere]

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Chapter 6: DIY Method 4 – Solar-Powered Air-to-Water Unit

Combining a small dehumidifier-style compressor with solar power creates a fully off-grid, renewable water source. A 200 W solar panel can comfortably run a 150 W dehumidifier-based AWG unit, producing 6–12 litres on sunny humid days.

System Components

- 200 W monocrystalline solar panel
- 30 A MPPT solar charge controller
- 100 Ah LiFePO4 battery (for night / cloudy operation)
- Pure sine-wave inverter (300 W)
- 30-pint energy-star dehumidifier
- Filtration & UV stage (see Chapter 7)

Wiring Overview

Panel → Charge Controller → Battery → Inverter → Dehumidifier. Size the battery so the system can operate for 8 hours without sun, giving you water-independent nights. Mount the panel at the optimal tilt angle for your latitude (equal to your latitude in degrees).

> ■ **PRO TIP**
> A 10 W USB solar panel connected to a Peltier harvester makes a functional 200 ml/day emergency water source — fits in a backpack.

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Chapter 7: Filtration & Purification – Making It Safe to Drink

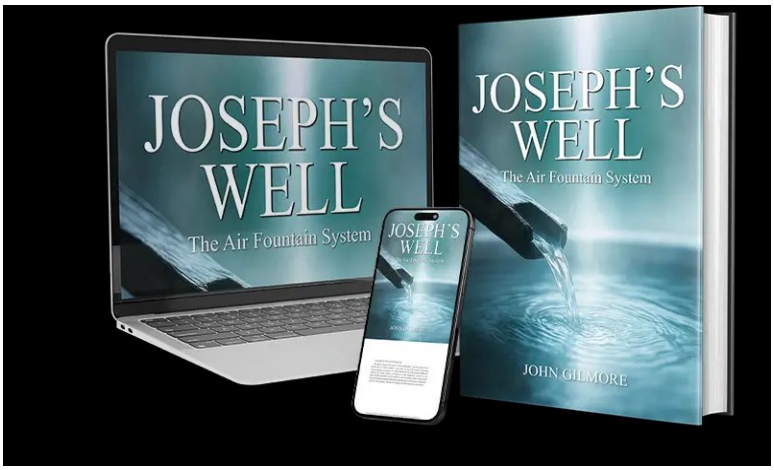
Condensed atmospheric water is surprisingly pure — often purer than tap water — but it can still pick up contaminants from air, dust, mold in your collection surfaces, and plastic tubing. A proper filtration chain is **non-negotiable**.

Recommended 4-Stage Filtration Chain

Stage	Filter Type	Specification	Removes
Stage 1	Sediment Pre-Filter	5-micron PP fiber	Removes dust, particulates, rust
Stage 2	Activated Carbon Block	0.5-micron GAC/CTO	Removes chlorine, VOCs, odours
Stage 3	Reverse Osmosis (optional)	0.0001-micron TFC	Removes heavy metals, bacteria
Stage 4	UV-C Sterilisation	254 nm wavelength LED	Kills 99.99 % of bacteria & viruses

After filtration, re-mineralise with a calcite filter or mineral drops. Pure condensate water has a pH around 5.5–6.5 and tastes flat; a pinch of Himalayan salt or mineral drops per litre corrects both taste and mineral balance.

■ **PRO TIP**
Test your filtered water monthly with a $15 TDS/EC meter and annual lab tests for bacteria. Peace of mind is worth the small cost.



■ **Joseph's Well Includes Built-In Multi-Stage Filtration**

[Click Here To Watch the Free Presentation Before It's Gone]

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Chapter 8: Storage, Maintenance & Best Practices

Even the best collection system fails if water is stored improperly. Follow these best practices to maintain freshness and safety.

Storage Guidelines

- Use food-grade HDPE or stainless steel tanks only.
- Keep stored water out of direct sunlight to prevent algae growth.
- Add 1–2 drops of food-grade hydrogen peroxide (3 %) per litre for storage beyond 3 days.
- Rotate stock: first-in, first-out. Don't let water sit longer than 2 weeks without treatment.
- Flush and clean storage tanks monthly with a dilute bleach solution (1 tsp per 4 litres).

Maintenance Schedule

- **Weekly:** Wipe down collection surfaces, check for mold, empty drip trays.
- **Monthly:** Clean air intake filters, check tubing for kinks or leaks, TDS test.
- **Quarterly:** Replace sediment and carbon filters, inspect UV lamp or LED.
- **Annually:** Full system inspection, lab water test, replace UV-C element.

■ PRO TIP

Labeling storage tanks with the fill date takes 5 seconds and prevents you from drinking water that has sat too long.

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Chapter 9: Sizing Your System for Daily Needs

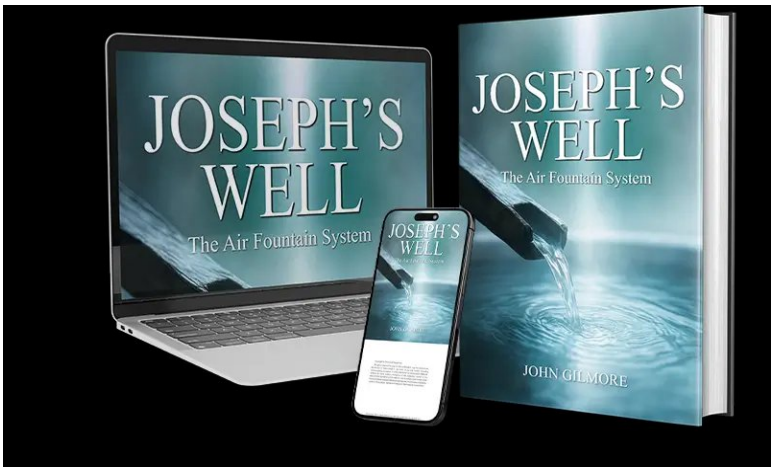
Before choosing which method or system to build, calculate how much water your household actually needs. This prevents under-building (frustration) or over-building (wasted cost).

Per-Person Daily Water Budget

Use	Litres/Day
Drinking	2–3 L
Cooking	2–4 L
Teeth, hands, minimal hygiene	2–3 L
Basic Survival Total	6–10 L/person
Full household hygiene	50–150 L/person

For a family of four targeting drinking and cooking independence, you need roughly **25–40 litres per day**. A well-tuned DIY solar dehumidifier in a humid climate can meet this. In drier climates or for full household use, stacking multiple units or investing in a high-output commercial AWG system becomes more practical.

■ **PRO TIP**
Building a 2-day buffer (storage) is the single biggest resilience upgrade you can make to any water system.



■ **Joseph's Well Is Sized for Real Family Use**

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Chapter 10: Integrating With Rainwater & Well Systems

AWG works best as part of a layered water strategy, not a standalone solution. Pairing it with rainwater harvesting or a traditional well creates redundancy that ensures water security through droughts, grid outages, and supply interruptions.

AWG + Rainwater Harvesting

Rainwater systems produce large volumes at zero energy cost during wet seasons. AWG fills the gap during dry months when tanks run low. Connect both to a common header tank with a float valve to auto-select whichever source has water available.

AWG + Shallow Well

In many regions, well water quality is inconsistent or contaminated with nitrates and heavy metals. Using AWG as the drinking and cooking supply while using well water for irrigation and toilet flushing is a cost-effective hybrid that protects health without treating the entire well output.

Smart Switching

- Install a simple float-switch controller to prioritise the cheapest source first.
- Route all sources through the same 4-stage filtration for consistent quality.
- Keep a dedicated emergency AWG unit sealed and ready — never part of the daily rotation.

■ PRO TIP

A gravity-fed header tank at height creates pressure without a pump — great for off-grid setups.

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Chapter 11: Off-Grid & Emergency Water Independence

Disasters — hurricanes, earthquakes, prolonged power outages — overwhelmingly involve water supply failure within 48 hours. An AWG system that runs on solar or battery power can be the difference between self-sufficiency and dependence on relief agencies.

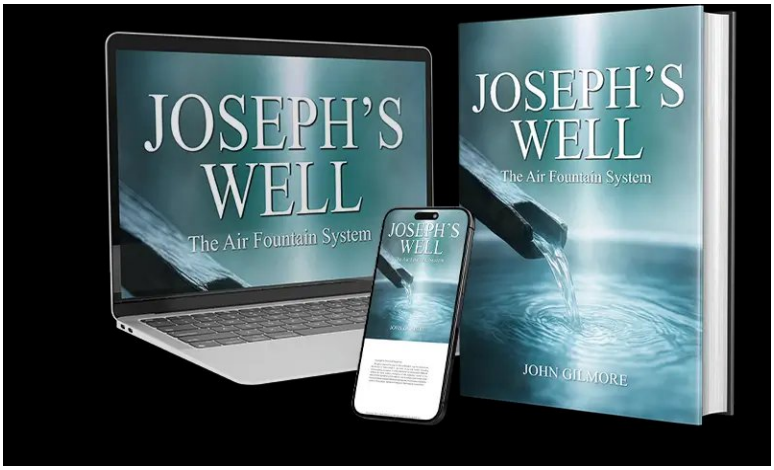
Emergency AWG Kit — 72-Hour Minimum

- 1 × Peltier harvester unit with 12 V battery pack (10 Ah)
- 1 × 10 L food-grade collapsible container
- 1 × portable carbon + UV inline filter set
- 1 × digital hygrometer/thermometer
- 1 × solar panel (10–20 W foldable)

Bug-Out Bag AWG

A compact Peltier unit, small solar panel, and inline filter can fit in a 40 L backpack and produce enough drinking water (300–800 ml/hr in humid conditions) to sustain one person indefinitely without finding a water source.

> ■ **PRO TIP**
> Practice running your emergency AWG system once a year. Untested gear always surprises you at the worst moment.



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■ Joseph's Well — Reliable Water Even When the Grid Goes Down

[Reveal the Hidden Water Source Strategy Now]

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Chapter 12: Climate & Location Factors

Your geography determines which AWG approach will perform best. Here's how to match method to climate:

Tropical & Subtropical (RH > 60 %)

Best zone for AWG. Any method works. Passive fog collectors, dehumidifier-based units, and solar AWG all perform excellently. Even simple Peltier units can produce 1–2 litres per day.

Mediterranean & Temperate (RH 40–60 %)

Dehumidifier units and solar AWG are practical. Fog collectors only viable near coastlines. Target higher air-throughput designs (larger fans, higher CFM ratings) to compensate for lower moisture density.

Arid & Semi-Arid (RH < 40 %)

Passive methods largely impractical. Focus on high-efficiency compressor-based AWG or desiccant-based systems (adsorption AWG). The Warka Water Tower design — a bamboo scaffold with polypropylene mesh — is a proven passive solution even at 20–25 % RH in Ethiopia.

Cold Climates (< 10 °C average)

Cold air holds little moisture. AWG is best treated as a supplementary source. Prioritise snowmelt collection and roof rainwater harvesting; use AWG as a polishing/backup supply.

■ **PRO TIP**

Even in dry climates, the hours just before dawn see relative humidity peak by 10–15 % — schedule your system to run hardest then.

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Chapter 13: Cost Comparison – DIY vs. Commercial

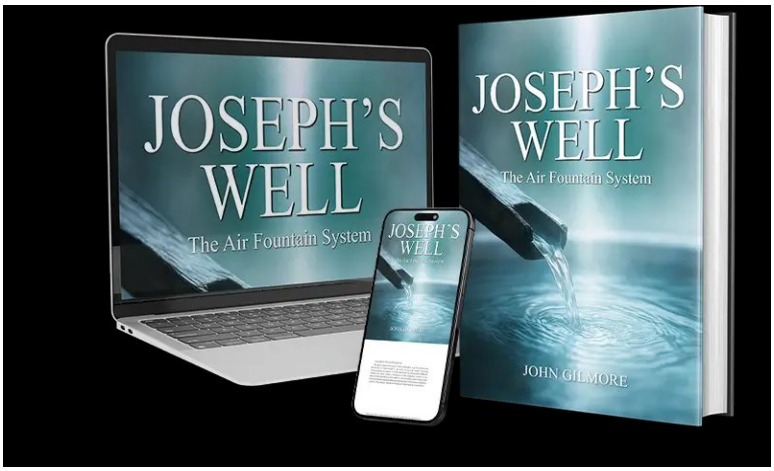
Is it cheaper to build or buy? The honest answer depends on your time, skills, and long-term goals.

System	Setup Cost	Daily Output	Cost/Litre*	Ease
DIY Peltier	$60–90	0.3–1.5 L	$0.08–0.25	Moderate
DIY Dehumidifier	$150–300	5–14 L	$0.02–0.06	Easy
DIY Solar AWG	$400–700	6–14 L	$0.03–0.08	Hard
DIY Fog Collector	$80–150	3–12 L*	$0.01–0.03	Easy
Joseph's Well System	**See affiliate**	**Up to 10+ L**	**Optimised**	**Very Easy**

** Fog collectors depend on coastal/foggy location. Cost/litre calculated over 2-year operational life.*

DIY systems reward patience and technical skill, but they have real hidden costs: time, iteration, maintenance, and the risk of producing unsafe water if filtration is sub-standard. Commercial units like Joseph's Well are engineered, tested, and certified — saving the learning curve entirely.

■ PRO TIP
Factor your time at a realistic hourly rate. A DIY solar AWG can take 40–80 hours to build and debug — is that worth it vs. a ready-made unit?



■ See Joseph's Well Pricing — Click Below

[Protect Your Family With This Water Guide]

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Chapter 14: The Joseph's Well Air Fountain System

The **Joseph's Well Air Fountain System**, developed by water independence expert John Gilmore, represents the culmination of years of research into practical atmospheric water generation for households and small communities.

Key Features

- Advanced multi-stage AWG technology optimised for a wide range of humidity conditions.
- Built-in 4-stage filtration (sediment, carbon, UV, and mineral balance).
- Energy-efficient design compatible with standard grid power and solar off-grid setups.
- Compact form factor — designed to fit on a countertop or in a utility space.
- Comprehensive DIY integration guide included — works alongside existing rainwater or well systems.

Who It Is For

Joseph's Well is ideal for homeowners and renters who want clean drinking water independence without months of DIY experimentation, families preparing for emergencies or living in areas with poor water quality, and off-grid enthusiasts wanting a reliable plug-and-produce water source.

■ **PRO TIP**

The Joseph's Well system includes a step-by-step installation guide so you can set it up without a plumber.

The Joseph's Well Air Fountain System — available via the link below.

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■ Get the Joseph's Well Air Fountain System Today

[See How Families Are Preparing for Emergencies]

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Chapter 15: Real-World Results & Testimonials

Thousands of households across the globe have implemented atmospheric water generation systems — from simple DIY Peltier units to full commercial AWG installations. Here is a summary of documented real-world outcomes:

Case Study 1 – Rural Family, Philippines

A family of five in a humid coastal province installed a solar-powered dehumidifier AWG system for approximately $450. Average daily output: 11 litres. Within six months the system had fully offset their bottled water costs and dramatically reduced gastrointestinal illness in the household.

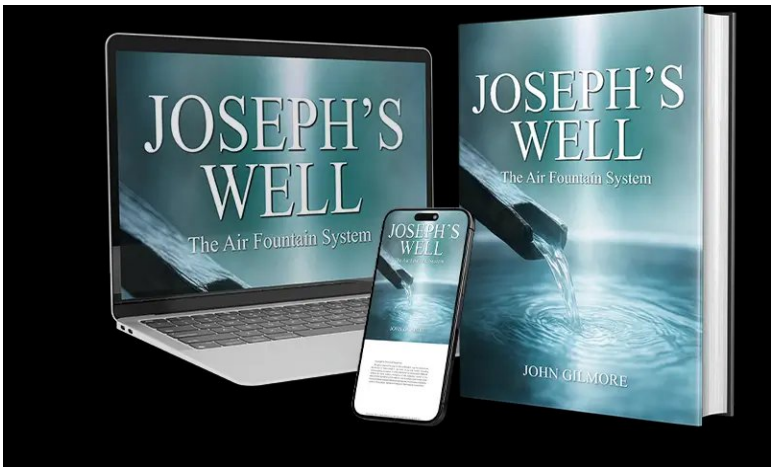
Case Study 2 – Off-Grid Homesteader, Texas

An off-grid homesteader combined a Joseph's Well-style commercial AWG unit with a 2,000-litre rainwater tank. During a 3-week summer drought when the rainwater supply ran dry, the AWG unit produced a reliable 8 litres per day — sufficient for drinking and cooking for two adults.

Case Study 3 – Emergency Preparedness, Florida

After Hurricane Ian disrupted municipal water supply for nine days in their neighbourhood, a family with a pre-installed AWG system never needed to queue at distribution centres. Their neighbours were relying on a 72-hour bottled water supply that ran out by day four.

> *"Once you have water independence you cannot imagine going back. It changed how I think about every utility." — AWG System Owner, Queensland, Australia*



■ Join Thousands of Water-Independent Households

[Explore the Water Independence Blueprint Today]

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Chapter 16: Quick-Start Checklist

Use this checklist to go from zero to your first glass of air-harvested water as quickly as possible.

[ASSESS]

- ■ Measure outdoor relative humidity over 7 days (digital hygrometer).
- ■ Calculate your daily water target (persons × 8 L minimum).
- ■ Decide: DIY or commercial system (see Chapter 13 cost comparison).

[GATHER]

- ■ Procure all components (see relevant chapter for your chosen method).
- ■ Source food-grade collection containers and storage tanks.
- ■ Order filtration components: sediment, carbon, UV-C.

[BUILD]

- ■ Assemble collection mechanism (dehumidifier / Peltier / fog collector).
- ■ Install filtration chain in correct order (sediment → carbon → UV).
- ■ Connect storage tank, label with max fill date.

[TEST]

- ■ Run system for 24 hours; collect and visually inspect output.
- ■ Measure TDS with meter — target < 50 ppm for drinking water.
- ■ Taste test: add mineral drops if water tastes flat.

[MAINTAIN]

- ■ Set calendar reminders for filter changes and cleaning.
- ■ Log daily output volume to track seasonal performance.
- ■ Keep a spare set of filters on hand at all times.

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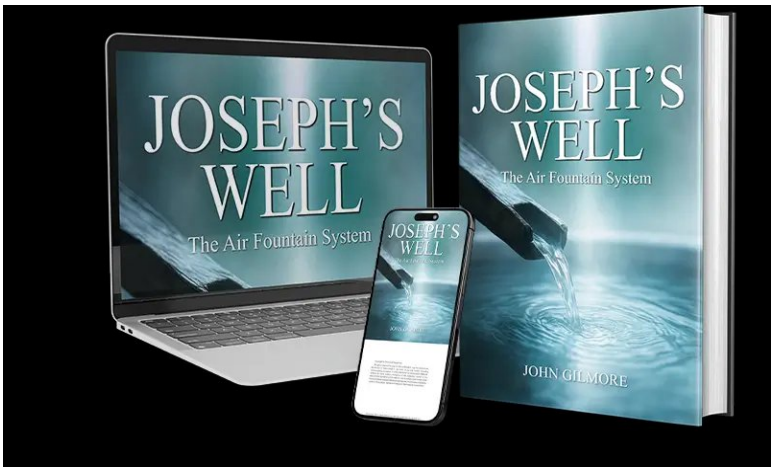

■ Fast-Track with Joseph's Well — No Checklist Needed

[Find Out If This Water Solution Is Right for You]

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Conclusion: Your First Step to Water Freedom

You now have everything you need to harvest clean, drinkable water from the air around you. The technology is proven, the methods are accessible, and the rewards — independence, resilience, cost savings, and peace of mind — are entirely within your reach.

Whether you choose to start with a $60 Peltier experiment this weekend or to fast-track your water independence with the Joseph's Well Air Fountain System, the most important step is the first one.

Water scarcity affects over two billion people worldwide — and even in water-rich countries, aging infrastructure, drought, and contamination events remind us that our water supply is more fragile than we assume. Building your own atmospheric water source is not a fringe prepper activity; it is a rational, evidence-based investment in the resilience of your home and your family.

> *"The best time to build your water independence system was five years ago. The second best time is today."*

Take Action Now

- Pick one DIY method from this guide and order parts this week.
- Or click the Joseph's Well link below to get a complete, ready-to-run system.
- Share this guide with someone who values self-reliance.
- Stay curious — water is life, and the sky is literally the limit.

Joseph's Well Air Fountain System — your complete water independence solution.

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■ Get Joseph's Well Now — Start Your Water Independence Journey

[Don't Wait Until It's Too Late—Learn More]

Thank you for reading. Clean water for every household — that's the mission.

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